Desk Review

TSOGOLO LANGA

Malawi

NOVEMBER 2019 |

Final version after review at Tsogolo Langa Partners' Meeting 13 November 2019.
Authors: Prof W Stones and Dr M Malata for the University of Strathclyde.

Tsogolo Langa Desk Review:

Evidence on Populations and Programs to Support Contraceptive Service Design, with special reference to Adolescents in Sub Saharan Africa.

Table of Contents

Recommended Citation:

University of Strathclyde and Population Services International. 2019. *Evidence on Populations and Programs to Support Contraceptive Service Design, with special reference to Adolescents in Sub Saharan Africa*. Glasgow, Scotland and Washington DC, USA. UoS and PSI.

TSOGOLO LANGA DESK REVIEW EXECUTIVE SUMMARY

The government of Malawi has committed to improving the Sexual and Reproductive Health Rights and Family Planning (SRHR/FP) across the country, including for adolescents. However, challenges to contraceptive uptake and access to FP services prevail. To address the modest fall in age-specific fertility seen among adolescents in Malawi in recent years with its related adverse social and health consequences, all available relevant evidence that could inform programming is needed. This desk review focused on two main objectives with a specific focus on adolescents:

1. Evidence on factors that underlie reproductive health decision making and specifically contraceptive use amongst adolescents including vulnerable sub-groups such as young people with disabilities in Sub Saharan Africa
2. Review of scientific papers and programme reports that contain analytical findings about contraceptive service delivery

An electronic search was undertaken using a formal search strategy. Working papers and reports that may contain relevant studies from Tsogolo Langa partners were also sought. In response to objective 1, the literature review identified 388 potentially related sources of which 29 were found to be informative. The review identified evidence falling into three key thematic areas: **cultural belief systems including prevalent gender norms**, **lack of confidentiality and shame**, and **influencers of contraceptive use**. To address the second objective, 2,341 potential sources were identified from the search. An initial review of titles and abstracts resulted in 241 sources retained, and of these 38 were reviewed in detail.

Main findings

- There are a number of powerful disincentives for adolescents in Malawi to access and use contraceptives, including cultural beliefs that prevail about fertility, masculinity and misconceptions about fertility linked to contraceptive use, alongside issues related to confidentiality and shame regarding accessing services. These are compounded by influencers, including parents, partners and peers, and traditional initiation practices. Furthermore, providers' unwillingness to provide contraceptive services to unmarried adolescents also hinder the contraceptive uptake by this age-group. As such, the Malawian context for adolescents accessing SRHR/FP demands further research.
- In terms of effective platforms from which to engage adolescents, there were a number of key findings to consider. A lesson from peer education and school-based intervention studies is that only modest impact can be expected when educational strategies do not include access to services. Post abortion care is an important setting for providing contraception to adolescents. In addition, according to published evidence, in Malawi the use of Health Surveillance Assistants to drive community-based provision may not be an ideal approach.
- Through the desk review, specific knowledge gaps were identified and should be considered for examination.
    - The SRHR/FP experience of adolescents living with disabilities and those of boys and young men; interventions targeting adolescents with disabilities.

- Lower use of emergency contraception (EC) in Malawi than other countries resulting in preventable unintended pregnancy.
- Concentration of information about EC pertains to urban/educated adolescents with little to no information on rural populations.
- As national policy for Pre Exposure Prophylaxis for HIV prevention (PrEP) extends to AGYW, strategies for integration with other SRHR/FP services is a key priority.

Conclusion

To drive effective evidence based SRH programming that addresses the needs of adolescents (male and female), exploration of their wider needs for health services, including optimal access points and the mix of services is needed. Social networks need to be explored as channels for accessing information about services and spreading correct understanding about non contraceptive benefits of method use, to dispel misconceptions and myths. A special focus on LARC is needed so that longer acting methods can be made fully accessible to adolescents, in parallel with ready access to EC.

Evidence on Populations and Programs to Support Contraceptive Service Design, with special reference to Adolescents in Sub Saharan Africa.

BACKGROUND

The Tsogolo Langa Research Agenda identified four broad question areas where evidence would help to inform programming for adolescents including especially vulnerable sup-groups such as those with disabilities. The four areas are:

- How do influencers shape adolescents' path to empowered contraceptive decision making?
- What does the delivery of an acceptable, integrated comprehensive SRHR/FP look like for adolescents?
- What would a harmonized, multi-channel communication and messaging programme for SRHR/FP look like?
- What are the incremental costs to reach adolescents with SRHR services?

OBJECTIVES

I. We aimed to review scientific literature that illuminates those aspects of the sociocultural context of sub-Saharan Africa that underlie reproductive health decision making and specifically contraceptive use among adolescents including those with disabilities and other vulnerable sub groups.

II. We identified and reviewed scientific papers and programme reports that contain analytical findings about contraceptive service delivery using the following review criteria:
    i. Participants: Adolescents in Malawi and sub Saharan Africa (male and female)
    ii. Interventions: Observational cohort studies of service users; programmatic intervention studies
    iii. Comparisons: Descriptive observational studies with no comparison group; service innovations or interventions compared with 'usual service' model; formal quasi-experimental or randomized studies of service interventions.
    iv. Outcomes among adolescents: Service access and utilization among adolescents and relevant sub populations; client satisfaction; method mix; CYPs provided and cost comparisons; age-specific fertility.

METHODS AND ANALYSIS

Study design

This is a desk review using electronic databases and manual searching of material identified through the Tsologo Langa partner network.

Studies inclusion and exclusion criteria

We included studies of adolescents in sub Saharan Africa (age 10-19). These studies must have been published or reported by the search date of September 2019 in English.

Potentially duplicate research reports were compared using date of publication, country and site where the study was conducted, and the number of participants enrolled. In the case of duplicate publication only one article or report with the most comprehensive information is included in this review. We included studies that compare exposures with control or comparison groups and also observational cohorts. We excluded studies of programs with a primary focus on HIV screening and treatment that do not include a component of contraceptive provision beyond condom distribution.

Search strategy for identification of relevant studies

Data sources

Sources of data included the following electronic data sources: PUBMED, TRIP database, Research4Life via HINARI (World Health Organization), African Journals Online, Cochrane Library. We contacted partners in the Tsogolo Langa programme and other stakeholders to identify working papers and reports that may contain relevant studies.

Hand-searching

All articles in the reference list of selected studies were scanned for further studies, which may be relevant for this desk review.

Relevant adolescent ethnographic and family planning/contraceptive service delivery studies from the SSA region were identified by an electronic search strategy. We used search terms that are tailored to suit requirements of the individual databases. The Boolean operators 'AND' and 'OR' were used to link key words in the search terms. Full text articles were accessed online, if the titles and abstracts suggest that the studies are relevant. Where materials are not available online via HINARI or other sources we used the resources of the libraries at the University of Strathclyde and Malawi College of Medicine for inter library loan services.

PUBMED search syntax:

For ethnography/ qualitative studies:

("Africa South of the Sahara"[Mesh Terms] OR "Malawi"[Mesh Terms]) AND ("adolescent"[MeSH Terms] OR "adolescent"[All Fields]) AND ("contraception behaviour"[All Fields] OR "contraception behavior"[MeSH Terms] OR "behavior"[All Fields] OR "contraception behavior"[All Fields]) AND ("qualitative"[All Fields] OR "ethnography"[All Fields]) NOT "HIV"[Title] NOT "AIDS"[Title] NOT "antiretroviral"[Title] NOT "anemia"[Title] NOT "schistosomiasis"[Title] NOT "dental"[All Fields] NOT "teething"[Title] NOT "antenatal"[Title] NOT "abortion"[Title] NOT "cancer"[Title] NOT "delivery"[Title] NOT "blood"[Title] NOT

“feeding”[Title] NOT “nutrition”[Title] NOT “training”[Title] NOT diarr*[Title] NOT “hearing”[Title] NOT “eye”[Title] NOT “malaria”[Title] NOT “physical activity”[Title] NOT addict*[Title] NOT “alcohol”[Title] NOT infect*[Title] NOT sanita*[Title] NOT “circumcision”[Title]

For interventions:

("Africa South of the Sahara"[Mesh Terms] OR "Malawi"[Mesh Terms]) AND (("adolescent"[MeSH Terms] OR "adolescent"[All Fields]) OR ("adolescent health"[MeSH Terms] OR ("adolescent"[All Fields] AND "health"[All Fields]) OR "adolescent health"[All Fields]) OR ("adolescent health services"[MeSH Terms] OR ("adolescent"[All Fields] AND "health"[All Fields] AND "services"[All Fields]) OR "adolescent health services"[All Fields]) OR ("reproductive health services"[MeSH Terms] OR ("reproductive"[All Fields] AND "health"[All Fields] AND "services"[All Fields]) OR "reproductive health services"[All Fields])) AND (("contraception"[MeSH Terms] OR "contraception"[All Fields]) OR ("contraception behaviour"[All Fields] OR "contraception behavior"[MeSH Terms] OR ("contraception"[All Fields] AND "behavior"[All Fields]) OR "contraception behavior"[All Fields]))

2,500 hits.

Sub-search in the above for persons with disabilities vulnerable groups – the above plus:

AND (("disabled persons"[MeSH Terms] OR ("disabled"[All Fields] AND "persons"[All Fields]) OR "disabled persons"[All Fields]) OR ("vulnerable populations"[MeSH Terms] OR ("vulnerable"[All Fields] AND "populations"[All Fields]) OR "vulnerable populations"[All Fields]))

19 hits.

TRIP Database search by ‘PICO’ headings.

(title:(title:adolescents (africa or malawi)) OR ((abstract:adolescents (africa or malawi))))(title:(services OR health)) NOT (title:(HIV)) NOT (title:(mental)) NOT (title:(bereavement)) NOT (title:(antenatal)) NOT (title:child)) NOT (title:(bullied))

21 hits.

Research4Life (via Hinari):

For ethnography

((title:adolescents (africa or malawi)) OR ((abstract:adolescents (africa or malawi))) AND (TitleCombined:((Qualitative OR title:Ethnography))) AND (contracept*) NOT (TitleCombined:((HIV OR antiretroviral)))

For interventions:

((title:adolescents (africa or malawi)) OR ((abstract:adolescents (africa or malawi))) AND (TitleCombined:((Intervention OR title:Implementation OR cluster OR

randomized OR cohort))) AND (contracept*) NOT (TitleCombined:((HIV OR antiretroviral)))

18 hits.

African Journals Online:

Title: Adolescen* and contracept*

7 hits.

Cochrane Library

TRIALS

ID	SearchHits	
#1	MeSH descriptor: [Africa South of the Sahara] explode all trees	5948
#2	(adolescen*):ti,ab,kw AND (CONTRACEPT*):ti,ab,kw (Word variations have been searched)	1678
#3	#1 and #2	82

COCHRANE REVIEWS (including non-African material)

12 Cochrane Reviews matching "#2 - (adolescen*):ti,ab,kw AND (CONTRACEPT*):ti,ab,kw" (Word variations have been searched)

DATA EXTRACTION

An Excel spreadsheet was designed, onto which eligible studies were extracted.

The following data were extracted from the relevant studies: name of authors, year of publication, setting where study was conducted, study design, study setting, study population, follow up period, tools used for data collection for participants and outcomes.

DATA SYNTHESIS AND ANALYSIS

Data assessment

We examined ethnographic descriptive findings on cultural influences on sexual behaviour and adolescent decision making regarding fertility and contraception. Exposures to different service models and outcomes of interest were tabulated with estimates of effect size where available. Authors' textual commentary on programmatic features considered to be of importance for achieving impact were collected, for example from the Discussion sections of scientific papers.

Synthesis

We intended to have studies of a heterogeneous nature included in the review. Both narrative and statistical synthesis were intended where feasible but the latter methods proved not to be appropriate.

To aid classification and coherence of synthesis of findings, presentation of findings is structured in terms of the two main areas of understanding of context including ethnography (objective 1), and evidence from population surveys and interventions (objective 2).

ETHICS AND DISSEMINATION

The findings of this review will be shared with Tsogolo Langa partners as part of the Research Agenda and further disseminated through the programme channels as appropriate.

We do not require ethics approval to carry out this review as we are not collecting primary data. Patient consent is not required.

RESULTS

Objective 1: Evidence on factors that "underlie reproductive health decision making and specifically contraceptive use among adolescents including those with disabilities and other vulnerable sub groups".

Following searching, 388 potentially relevant sources were identified and an initial screen of titles and abstracts resulted in retention of 82 entries in the data extraction table. Following further review of the sources, 29 were found to be informative for the present study. Main findings from these reports are presented below.

We identified three major themes influencing the decision making for adolescent contraceptive use: cultural norms and misconceptions about contraceptives side-effects; shame and fear of being recognized by service providers; the role of influencers in decision making. Furthermore, we also explored the journey for adolescents with disabilities.

Cultural beliefs on fertility / masculinity and misconceptions around infertility resulting from contraceptive use.

Our findings from the literature review highlight the role that cultural norms and gender norms play in influencing the decision to use contraceptives. Traditional norms to display fertility continue to deter the decision to use contraceptives. In **Adams, Salazar, & Lundgren, 2013** in depth interviews were undertaken with Ugandan peers, community leaders and adult relatives. Analysis used inductive and deductive approaches "guided by social norm theory and feminist perspectives that view SRH as rooted in socially constructed gender roles and the balance of power between men and women". Rigid gender norms and post-conflict realities were reported to create an environment in which young people struggle to bridge the gap between idealized and experienced gender roles, as a result of pressures such as forced displacement and residence in camps due to conflict. Participants frequently identified having children and forming a family as the foundation of femininity and masculinity. Cultural norms while 'traditional' in many respects were noted to be supportive of birth spacing. Family-planning methods and services were not considered appropriate for adolescents owing to 'pronatalist' norms, both among adults/ influencers and among

adolescents themselves. Accessing services is only considered acceptable for those with at least one child. These findings are echoed in other studies (**Godia, Olenja, Hofman, & van den Broek, 2014, John, Babalola, & Chipeta, 2015, Self et al., 2018**).

The authors note that service-side interventions will not increase adolescents' use of family planning services in the absence of strategies to "engage youths in critical analysis of gender roles and their influence on reproduction". Such strategies could potentially build the "nurturing and protective elements of idealized masculinity and femininity" expressed as cultural norms.

Relevance for TL: relative to Malawi, the work reflects a conservative cultural setting regarding attitudes to pre-marital sex or sexual activity not related to procreation. Tensions arising from forced displacement owing to conflict may be relevant to refugee/ displaced persons within Malawi. However, the need for work to address gender roles among adolescents and their influencers as a basis for successful ASRH programming may be highly relevant.

The review also finds that misinformation and misconceptions about the side-effects of contraceptives are exacerbated by the cultural norms surrounding fertility. Contraceptives are traditionally associated with infertility and are thereby strongly discouraged for adolescent use. While there is a degree of acceptability for women with children, long acting reversible contraceptives, injectables and pills are not recommended and are discouraged for adolescents use by peers and by health providers. For example **Castle, 2003** examined young people's views on hormonal contraception in urban Mali, where cultural beliefs about menstruation coincide with deeply held beliefs that hormonal methods will result in sterility. Condom use is viewed favourably because of its non-interference with menses. Overall in this setting the perceived social consequences (such as possible sterility and resulting ostracism) are a bigger driver of contraceptive decision making than conventionally cited determinants such as availability, accessibility and cost. Similarly, **Cover, Namagembe, Tumusiime, Lim, & Cox, 2018** report provider attitudes to making self-injectable DMPA (Sayana Press) available to adolescents in Uganda. While the method is regarded very favourably there are reservations regarding HIV risk and future fertility, leading some consider it inappropriate for this age group.

Godia et al., 2014 undertook qualitative work with adolescents including some aged 10-14 in Kenya. Beliefs about the undesirability of hormonal methods before a first birth were common, as were views that condom use would be unlikely after the first few sexual acts between a couple as 'trust' was established. There were reservations about the configuration of youth friendly health services. Games offered at YFHS facilities were seen mostly to be attractive to boys but may not be useful as a means to increase contraceptive use. The labelling of contraception as 'family planning' is problematic for adolescents.

Relevance for TL: In the Malawi setting HIV has dominated the discourse around condom use and there may be less reluctance to use injectables, though fear of sterility

is a common reservation with regard to oral contraceptives. There may be scope to identify the nuances of belief structures around sterility risk with hormonal methods among adolescents and their influencers and the extent to which these may or may not be modifiable. Ensuring that provider knowledge is correct and that ideas about risk of sub fertility are fully explored and addressed is important in programming.

Although addressing sexuality among adult married women and men rather than adolescents, the study of **John et al., 2015** is included in this review as it sheds light on Malawian views of sexuality and sexual pleasure that are prevalent in the society. The paper identified terms expressive of positive experiences including "sweet," "spontaneous," "unplanned" and "uninterrupted," and participants expressed preference for modern contraceptive methods that aligned to these aspects of sexual experience, being the least obtrusive and able to preserve the nature and regularity of their sexual practices. Implants were highlighted as especially attractive in this context. However, there were concerns among that hormonal methods would render a woman less responsive in these terms and potentially increase the risk of the male partner looking elsewhere for satisfaction.

Relevance for TL: As adult sexual norms are transmitted explicitly or implicitly to adolescents, education framed for adolescents on sexual pleasure in the cultural context while dispelling misconceptions about methods could be useful, alongside increasing the extent of discussion of sexual pleasure among adults, given their role as influencers. This has potential to counteract the existing narrative which is mostly risk or 'protection' focused.

Self et al., 2018 report findings from focus group discussions in Malawi with male and female adolescents (in and out of school) and youth as well as parents, exploring barriers to access to contraception. The familiar range of misconceptions (misconceptions about side-effects of contraceptives, negative attitudes, the costs of contraceptives and parental disapproval of contraceptives) is repeated among all groups and suggestions were made by participants for strengthening of youth friendly health services.

Relevance for TL: Much of the material may have limited potential for radical transformation of services to fully meet the needs of adolescents: there is a need to go beyond the 'YFHS' model.

Rokicki & Merten, 2018 describe a study of young (age 18-24) emergency contraceptive (EC) users in Ghana, where this method has become popular. Reasons for recourse to EC include unplanned or unwanted sexual encounters or as a backup to another method. Substantial misunderstandings and incorrect knowledge regarding EC was identified, possibly because the method has not been fully integrated into national health communication messaging on contraceptive options.

Relevance for TL: EC has considerable potential for adolescent programming but its rollout needs to be accompanied by effective health communication

Lack of confidentiality and shame

Use of contraceptives is also limited by the shame associated with pre-marital sex. This shame is transferred to the use of contraceptive such that adolescents' fear of being identified by health workers who come from their communities and their peers prevents them from accessing the SRH services. Similarly, we find that providers have negative attitudes towards pre-marital sex have negative attitudes towards providing contraceptives to adolescents.

Birhanu, Tushune, & Jebena, 2018 report a mixed methods study of Ethiopian in-school adolescents, youth and key informants. Just over one third of participants were aged 13-14. Respondents considered that girls were more likely than boys to access reproductive health services owing to fear of pregnancy or disease. Barriers to access included: lack of 'normalization' of using SRH services in this community; fear of shame among boys, with an example given of boys sending younger boys to buy condoms; lack of privacy so a risk of being recognized in a facility; fear of breach of confidentiality by disclosure by health workers. Provision via school based or school-linked referral, youth centres and outreach volunteers were suggested approaches.

Relevance for TL: In Malawi where school based reproductive health service delivery has not found support from Education policy makers, referral and outreach channels assume critical importance for reaching younger adolescents. Schools do represent an important potential 'hub' for referral activities, for example via 'school nurse' or community members though for the latter model maintaining privacy and confidentiality would be a major challenge.

Moyo & Rusinga, 2017 interviewed male and female adolescents and providers in a rural Zimbabwe setting. Knowledge of modern methods was high but use was very low. The study indicates this is largely due to service barriers including staff unwillingness to provide services to under 18s and general lack of public provision. However, fear of being seen attempting to access condoms and lack of confidence in staff to maintain privacy were also mentioned.

Relevance for TL: While the policy and service context is much more favourable for adolescent service provision in Malawi, concerns about privacy and confidentiality are very important.

Influencers of contraceptive use

The third theme that emerged was the role of other influencers in decision making. Commonly cited influencers include parents, partners and peers play a crucial role in determining the use of contraceptives and the acceptability.

Wamoyi & Wight, 2014 report findings from an extensive ethnographic study including participant observation of households, focus group discussions and in-depth interviews. The research centred around the notion of parent-child connectedness, especially parents' ability to spend time with their children and provide for their economic needs. The researchers conclude that modifying these structural factors

should facilitate parent-child connectedness, which may help delay early sexual intercourse, protect young people against unplanned pregnancy through encouraging communication on contraception use and, overall, promote healthy adolescent development. Conversely, parenting programmes to enhance parents' understanding, skills and motivation to provide a supportive upbringing for their children, are unlikely to have much effect unless complemented by interventions to modify structural factors.

Relevance for TL: Interventions with parents for adolescent SRH need fully to acknowledge and where possible address structural factors.

Kajula, Darling, Kaaya, & De Vries, 2016 studied parents and adolescents aged 12-14 in Dar es Salaam. The interviews centre around parental efforts to prevent young adolescent sexual activity and are characterised into parenting practices of preventive strategies, punitive practices and parental monitoring. Examples are given of tacit acceptance when a father finds a condom in his son's pocket, and a failure of protection following a rape that the victim was unable to report to her parents.

Relevance for TL: This work identifies the seriousness with which parents approach their protective role. There could be scope to engage them in adolescent programming from an angle of equipping them with additional parenting strategies beyond inculcation of fear, especially so as to allow adolescents to disclose harm without fear.

Munthali & Zulu, 2007 is the classic paper describing the role of initiation rites as they impact sexual and reproductive health related behaviour in Malawi. The field work was undertaken in 2003 and describes the variations in initiation practices across the country in the different communities. The authors note that it remains unclear to what extent these traditions result in early experimentation based on what has been learned. The tensions between tradition and Church teaching is also discussed.

Relevance for TL: Since this work was undertaken, main trends in the country include the containment of the HIV epidemic (though incompletely as far as Adolescents are concerned) and a trend to urbanization that results in cultural mixing. Our own work in urban Blantyre (unpublished) indicates that many adolescent girls now participate in faith based camps or substitute initiations that provide a variable mix of reproductive health teaching and traditional content, perhaps reflecting the cultural transition in urban settings. Such opportunities for boys appear to be absent at present. For boys, there are new opportunities to participate in voluntary male circumcision camps, representing a new dimension. RH services for adolescents need to take the changing context of initiations and 'modern' equivalents into account.

Kaphagawani & Kalipeni, 2017 report a survey of adolescents attending antenatal clinics in Zomba District, Malawi. Contraceptive knowledge was relatively high but use prior to the pregnancy was low, with injectables the most common method mentioned (53%). Unplanned pregnancy was associated with younger age within the adolescent

group and intimate partner violence. There were variations in cultural practices reflecting the mixed sample of participants from different communities.

Relevance for TL: In addition to the known limitations of DMPA in reducing short birth intervals at population level in Africa its role in adolescent programming should be viewed with caution. The acceptability of long acting methods among adolescents growing up in different traditional cultural contexts requires exploration. Furthermore, the study hints on the role of sexual partners in influencing decision making, particularly to younger adolescents who are more vulnerable and impressionable.

Krugu, Mevissen, Flore, & Ruiter, 2018 report findings from a study of male adolescents in Ghana. A predominant theme is intermittent condom use, depending on the extent of trust in the relationship or perceived safety (eg menstrual cycle). A general lack of trust in girls' motives was expressed and the basis of trust was superficial factors such as appearance rather than the depth of a relationship. Two conflicting norms are identified, the cultural norm of abstinence before alongside marriage and the peer norm to have sex and girlfriends, with the latter generally dominant in this sample.

Relevance for TL: The rather bleak findings from this study may not be directly translatable to Malawi but should prompt efforts to explore the relationship contexts and opportunities for strengthen gender-equitable and mutually rewarding relationship formation as a context for sexual exploration.

Kabagenyi et al., 2014 is also not adolescent-focused but reports insights regarding male involvement in contraceptive decision making in Uganda. Again, concern about adverse effects of hormonal methods on women's sexual availability are expressed, reflecting an unmet need for correct information. The authors debate the potential for unintended reinforcement of adverse gender norms via increasing 'male involvement' and call for research on the "comparative effectiveness of male-involvement strategies which promote gender equity by empowering women as well as increasing the positive participation of men".

Relevance for TL: As with insights from **John2015**, programming that navigates the nuances of 'male involvement' in a constructive and gender-transformative manner may have potential for beneficial spill-over into services for adolescents by normalising male partner involvement in shared decision making as romantic relationships progress.

In **Masemola-Yende & Mataboge, 2015**, currently pregnant South African adolescents and older mothers who experienced teenage pregnancy were interviewed. In contrast to some other studies in SSA, among these participants the levels of reproductive health knowledge were high, services were known to be available and there was pressure from boyfriends and from mothers to access contraception, despite which a pregnancy ensued. The authors identified the gap as one of skills to actually access and use services.

Relevance for TL: This study provides a reminder that even in favourable knowledge, social and service contexts unintended pregnancy is still a risk. A focus on skills or competencies in accessing and using methods is desirable.

Ochako et al., 2015 present findings from a study of urban and peri-urban female adolescents and youth (ages 16-24) in Kenya, sampled at household level using a formal process. Analysis focused on drivers and barriers to modern family planning uptake. The report highlights that contraceptive decision making is heavily influenced by social networks rather than being an individual decision. Myths and misconceptions among networks assume great importance. Male partner opinions were regarded as highly important by respondents although male adolescents or youth were not included in the study.

Relevance for TL: The findings in Kenya led to a specific campaign focusing on dispelling of myths and misconceptions, that may have applicability for Malawi.

Rock et al., 2016 is a report of in depth interviews with adolescents living in extreme poverty in Malawi, carried out as part of a baseline survey for the national Social Cash Transfer Program. Although, topics investigated were not directly SRH related but show the importance of peer networks among those living in extreme poverty, where poverty itself leads to social exclusion through stigmatisation. In general, networks for female respondents were less extensive than for males, but in-school participants benefited from wider networks.

Relevance for TL: This study provides a basis for consideration of innovate approaches to adolescent (especially young adolescent) programming that are explicitly designed both to capitalise on existing peer networks but also to work to strengthen the networks for adolescents who engage with them, thus seeing accessing SRH services as part of social capital/ opportunity building.

Other Studies

Ivanova et al., 2019 report a study of displaced adolescent girls (not boys) in Uganda, predominantly of Burundian and Congolese origin. Both access to services and reproductive health knowledge were very low: school-based sexuality education was limited and health facilities were not geared to adolescents. While levels of sexual activity were low there was intense fear of pregnancy in a context of stigmatisation of premarital pregnancy.

Relevance for TL: Programmes that include refugees/ displaced persons need specific components addressing adolescent needs. The non-inclusion of male adolescents in research is to be avoided.

Nkosi et al., 2019 describe the application of a seven stage 'candidacy framework' to analyse adolescent and young people's access to and utilisation of health services (including HIV and SRH but also general primary care services). The framework may help to systematise understanding of contextual and service barriers especially where

there are high levels of vulnerability due to poverty, alcohol use and social marginalisation, for example not possessing a national ID card.

Relevance for TL: The framework is recommended by the authors for incorporating adolescent and young peoples' perspectives into service design.

Yakubu & Salisu, 2018 is the only systematic review identified in this section of the review. The scope is determinants of adolescent pregnancy in sub-Saharan Africa. The authors isolate three sets of determinants, those related to i) sociocultural, environmental and economic factors; ii) individual factors such as excessive use of alcohol, substance abuse, educational status, low self-esteem; iii) health service-related factors.

Relevance for TL: The review has limited utility as the methods have not identified modifiable factors that could be relevant for programming.

Objective 2: Review of "scientific papers and programme reports that contain analytical findings about contraceptive service delivery".

Following searching, 2,341 potentially relevant sources were identified and an initial screen of titles and abstracts resulted in retention of 241 entries in the data extraction table. Following further review of the sources, 38 were found to be informative for the present study. Main findings from these reports are presented below.

Our literature review identified 6 broad types of interventions that have been tested to improve adolescent use of contraceptives. The first group of interventions that were identified were peer educational or school based interventions (**Ajuwon & Brieger, 2007; Brieger, Delano, Lane, Oladepo, & Oyediran, 2001; Busza et al., 2016; Lopez, Bernholc, Chen, & Tolley, 2016; Sarnquist et al., 2017; Taylor et al., 2014; Firestone et al., 2016; Mason-Jones et al., 2016; Arinze-Onyia, Aguwa, & Nwobodo, 2014**). Also, the use of media (radio or internet) to communicate SRH messaging (**Babalola, Folda, & Babayaro, 2008; Asiimwe, Ndugga, Mushomi, & Manyenye Ntozi, 2014; Bull, Nabembezi, Birungi, Kiwanuka, & Ybarra, 2010; A. Benson et al., 2018**). Another group of interventions that were identified were interventions that aimed at promoting access to services through provision of community based SHR services (**Lemani et al., 2017; Adam, 2016; Sarkar et al., 2015**). Also, we identified interventions that were designed to improve availability through improving the method mix or through the provision of private services / otherwise private services (**Bassett et al., 2018; Bellows et al., 2017; Chakraborty, Mbondo, & Wanderi, 2016; Gold et al., 2017; Hubacher, Olawo, Manduku, Kiarie, & Chen, 2012).** In addition, we also identified studies that evaluated the youth friendly health services (**Fikree, Abshiro, Mai, Hagos, & Asnake, 2017; Geary, Webb, Clarke, & Norris, 2015; Rosenberg et al., 2018**). Our literature review also identified interventions that integrated contraceptives with other SRH services such as HIV and post-abortion-care (**Baumgartner et al., 2014; J. Benson, Andersen, Healy, & Brahmi, 2017; Evens et al., 2014**).

Lastly, our study also identified two studies that focused on adolescents (people) with disabilities: **Burke, Kebe, Flink, van Reeuwijk, & le May, 2017** and **Olajide, Omisore, Arije, Afolabi, & Olajide, 2014**.

Citation ID	Intervention (Participants, Setting, Comparison if any)	Findings	Comment
Chandra-Mouli, Lane, & Wong, 2015	An evidence-based review of what does not work in ASRH programming. Main groupings of reasons are given with examples from each category.	Lack of impact is for the following reasons: 1. Significant numbers of adolescents are not adequately reached by the interventions intended for them; 2. Interventions that have been shown to be ineffective continue to be implemented; 3. Interventions that have been shown to be effective are delivered ineffectively; 4. Interventions have limited effects because they are delivered piecemeal. 5. Interventions are delivered with inadequate 'dosage' resulting in limited or transient effects.	This authoritative review is the starting point for considering any intervention strategy. Note that it includes discussion of the Malawi YFHS strategy.
Blackstone, Nwaozuru, & Iwelunmor, 2017	Systematic review: factors influencing contraceptive use in SSA.	Identified influences are not disaggregated by age group. Negative factors: women's misconceptions of contraceptive side effects, male partner disapproval, and social/cultural norms surrounding fertility. Positive factors: education, employment, and communication with the male partner.	Effect sizes are not estimated. Review scope is too 'broad brush'.

Citation ID	Intervention (Participants, Setting, Comparison if any)	Findings	Comment
PEER EDUCATION / SCHOOL BASED INTERVENTION			
Ajuwon & Brieger, 2007	Approximately 1,000 Nigerian secondary school students given one of three SRH interventions with teachers, peer educators or both. Comparison with control group. Condoms were distributed.	RH knowledge and ability to discuss RH topics increased the most in the combined intervention group. Condom use increased in all groups but only to around 50%. Around 10% were sexually active so future impact of the knowledge gain remains to be established.	Complicated tables are difficult to decipher to extract the data.
Brieger et al., 2001	Baseline and endline survey following a peer-led adolescent RH education program in West Africa. Numbers were 911 baseline, 908 at follow-up in the intervention sites; 873 baseline and 893 at follow-up in control communities.	Contraceptive use rose from 47.2% of 309 at baseline to 55.6% of 315 at follow-up (P=0.045). Reports from control areas showed a slight decrease. RH knowledge increased proportionately more in intervention sites. Effects were lower among out-of-school relative to in school adolescents.	Note the paper includes age in regression models but does not specify the ages of participants.
Busza et al., 2016	Process evaluation of Zimbabwean Intervention targeting women who sell sex, driven by a recognition that accessing those under 18 has been problematic in current service models. Peer educators aged 16-19 were recruited and activity pack topic materials adapted..	Participants enjoyed the sessions and reported improved cooperation, willingness to negotiate with clients, and self-reflection about their futures. Staff found facilitating sessions easy and activities clear and appropriate. Challenges included identifying appropriate referrals, initial recruitment of women in some sites, and managing participants' requests for financial compensation. The number of clients aged 15-19 increased at sex worker clinics in all sites.	The study targeted sex workers, and as results should be treated with caution, as they may not be applied to the average adolescent

Citation ID	Intervention (Participants, Setting, Comparison if any)	Findings	Comment
Lopez, Bernholc, et al., 2016	Cochrane Review. School-based interventions for improving contraceptive use in adolescents. 11 trials identified but only one from South Africa (Taylor2014).	Three trials had moderate quality evidence and showed intervention effects on pregnancy or contraceptive use. All three compared an interactive program to prevent HIV/STI and pregnancy versus usual health or sex education. In one trial, the intervention group was more likely than the standard curriculum group to report use of effective contraception during last sex, as assessed immediately after year one and 12 months after year two. At the same time points, the intervention group was more likely to report having used a condom during last sex and to have a lower reported frequency of sex without a condom in the past three months. The other multifaceted intervention provided a sexual risk reduction program and a risk avoidance (abstinence) program. The comparison was usual health education. At three months postprogram, the risk reduction group was less likely to report no condom use at last vaginal sex, as well as vaginal sex without a condom in the last three months. At 3 months and after 15 months, the risk avoidance group was less likely to report no condom use at last vaginal sex. The third trial provided a peer-led intervention for HIV and pregnancy prevention that had eight interactive sessions. At 17 months, the intervention group was less likely to report OC use during last sex compared with the teacher-led group. This negative effect may not have been significant if the investigators had adjusted for the clustering.	There are substantial gaps in evidence especially for SSA. The authors note that school settings are favourable for large scale trials of SRH interventions owing to the structured environment.

Citation ID	Intervention (Participants, Setting, Comparison if any)	Findings	Comment
Sarnquist et al., 2017	Retrospective analysis of the impact of an empowerment-focused intervention to reduce pregnancy related school dropout in urban Kenya.	School dropout due to pregnancy decreased in the intervention schools from 3.9% at baseline to 2.1% at follow-up, with no change at control schools.	
Taylor et al., 2014	RCT of a school-based intervention of 12 weekly sessions including 816 male and female school students in KwaZulu Natal, mean age 14. Questionnaires at baseline and 8 months. 12% were sexually experienced at baseline.	There were favourable effects on attitudes to teenage pregnancy. Intentions to abstain from sex whilst at school strengthened. More students expressed intentions to communicate with their partner about pregnancy and to use condoms.	Illustrates the challenges of using contraception as an end point in early adolescent age groups.
Firestone et al., 2016	Intensive group learning and on-site services to improve sexual and reproductive health was tested in a randomised design among 'young adults' (actually age 15-35) in Liberia. The context was of low literacy participants engaging in alternative education.	Increases in modern contraceptive use were greatest among unmarried women (33.7%, P = .002), and among adolescents ages 15–19: 13% increase (P = .005). Participation in HealthyActions was associated with an 8% increase in the probability of using oral contraceptives (P = .06) and a 9% percentage point increase in the probability of using implants (P = .007) with no differential effects by age.	*"HealthyActions* brought together key components of established social ties, intensive learning, and convenient SRH services" to serve a very marginalised population.
Mason-Jones et al., 2016	Cochrane Review. School-based interventions for preventing HIV, sexually transmitted infections, and pregnancy in adolescents. 8 cluster-RCTs enrolled 55,157 participants. Five trials were conducted in sub-Saharan Africa with one in Malawi.	*SRH educational interventions* in schools: no demonstrable impact. *Material or money incentives:* no impact on HIV, reduction in pregnancy (RR 0.76, 95% CI 0.58 to 0.99; two trials, 4200 participants). *Combined education and incentives* (one trial): no impact on pregnancy or HIV.	Educational or incentive interventions without service access have limited prospects for success.
Arinze-Onyia et al., 2014	290 female university students in Nigeria, of whom approximately 40% were aged 18-20. Randomised to receive emergency contraception (EC) education, or education plus a single pack of EC.	Knowledge scores on EC were higher in the education+EC group than the education alone group. The study did not collect information on actual use of the product. The authors assert that provision of the pack along with the education reinforces learning about the method.	Limited generalisability but one of a small number of EC studies available.

Citation ID	Intervention (Participants, Setting, Comparison if any)	Findings	Comment
Oringanje et al., 2016	Cochrane Review. Interventions for preventing unintended pregnancies among adolescents. 53 RCTs, enrolling 105,368 adolescents, of which four trials in LMIC.	Multiple interventions (combination of educational and contraceptive-promoting interventions) lowered the risk of unintended pregnancy among adolescents significantly (RR 0.66, 95% CI 0.50 to 0.87; 4 individual RCTs, 1905 participants. These effects were not seen in cluster design studies.	More studies are needed in low income country settings. The difference in findings from individual versus cluster designs requires attention.
MEDIA / RADIO			
Babalola et al., 2008	819 Nigerian women aged 15-24 were surveyed regarding current contraception use and analysed by previous exposure to the 'Ku Saurara!' radio program on ASRH issues, and contraceptive ideation.	26% reported exposure to the radio program. Exposure increased the probability of reporting a high level of contraceptive ideation by 17% and of contraceptive use by 3 percentage points.	This appears to show a statistically significant but programmatically marginal impact of the program.
Asiimwe et al., 2014	Cross-sectional quantitative study using Uganda Demographic and Health Survey 2011. They used logistic regression methods. Sample was 2814 non-pregnant women aged 15-34	Factors associated with reported contraceptive use were compared between younger and older survey respondents. An interesting observation in this analysis was that an association between listening to the radio and modern contraceptive use, controlling for other variables, was only significant among older women	Although this was a cross-sectional study, the study draws insights on how to communicate ASRH messaging with different population segments.
Bull et al., 2010	15 Ugandan in-school-youth were sampled to test the effect of an online sexuality education program	The online sexuality education program was designed to reflect the cultural tradition of Senga and Kojja, a paternal aunt or uncle respectively who conveys advice and information. The approach has potential to ensure complete coverage of SRH topics in contrast with the (at that time) existing school curriculum that primarily focused on HIV prevention.	
A. Benson et al., 2018	Urban Senegal: population exposed to multi-faceted intervention to increase contraceptive uptake. Baseline sample of 9,421 was 21% adolescent. Follow up of 6,927 of the same participants to assess change in contraceptive use.	Modern contraceptive use rose modestly from 16.9 to 22.1% with a slightly higher increase among poor women. Exposure to community activities had the largest influence followed by radio messages. Effect was less among younger women.	Modest result from a huge effort (note similar findings in Benson2017a from Kenya).

Citation ID	Intervention (Participants, Setting, Comparison if any)	Findings	Comment
COST RELATED / AVAILABILITY			
Bassett et al., 2018	326 female clients of South African hair salons, of whom 29% were aged 18–24 years. Survey assessed determinants of willingness to receive FP, HIV testing and PrEP in the salon setting.	Young women (18–24 years of age) were significantly less willing to receive contraception in the salon compared with older women (85% vs 94%, P = 0.014) but were not significantly less willing to receive PrEP (72% vs 79%, P . 0.1) or HIV testing (71% vs 76%, P . 0.25).	This could be a highly relevant strategy for TL adolescent programming at least in urban/ per urban areas, notably for PrEP.
Bellows et al., 2017	Ugandan recipients of a voucher of whom 330,826 received a service (Marie Stopes Uganda). Age was 23+.	70% chose an implant and 25% an IUCD. Overall increase in access; demographics indicate that the intended poorer population was reached (note no adolescents).	Informative as a strategy that could be replicated with a younger age group.
Chakraborty et al., 2016	This was an evaluation of a PSI social franchise program in Kenya. 50 Tunza franchise areas were matched with 50 control areas. Data from 5,609 women of reproductive age were collected with a focus on new users and on LAPM.	Adolescents were not a specific focus for this evaluation but the paper contains an informative chart showing predicted probabilities for 18-24 year olds of approximately 1.1 for those outside the program areas and 2.2 for those within the franchise areas, with non-overlapping error bars. New analyses should be careful to disaggregate by age so that adolescent impact can be identified.	As enabling access to LARC for adolescents has been problematic, these findings point to programmatic potential.
Gold et al., 2017	Marie Stopes International Mali (MSIM) began supporting the provision of family planning services at 70 'Centres de Santé Communitaires' (CSCOMs), deploying a social franchise approach. Routine monitoring data, clinical quality audits, and client exit interviews were used to assess performance.	CYPs were 29,127 in the first 10 months of operation in 2012 rising to 149,282 during 2015 (+500%). Implants accounted for 72% of methods. 26% of clients were adolescents. The authors argue that the "model of training local staff and improving infrastructure and management of existing facilities is no less sustainable then many common programming approaches in the region, such as free distribution of family planning commodities."	Indicates scope to include adolencents in LARC provision within a geographically accessible service model.
Hubacher et al., 2012	399 Kenyan women aged 18–24 requesting short-acting hormonal methods were offered implants in a prospective cohort design.	24% opted for an implant. 18-month discontinuation was 21% for implant and 43% for short acting method users. Al lof 22 unintended pregnancies were in the short acting method group.	Note that only 11% of participants were adolescents (18-19).

Citation ID	Intervention (Participants, Setting, Comparison if any)	Findings	Comment
INTEGRATION WITH OTHER SRH SERVICES			
Baumgartner et al., 2014	Tanzania FHI360 HIV clinics: test of integration of FP services. Survey of 323 pre- and 329 clients post-intervention. Clients were adults and around 89% had at least one child.	Statistically non-significant reduction in unmet need for FP from 25% to 15%. Adolescent participants not disaggregated.	An 'interesting negative' study that could bear replication with larger sample size and younger age mix.
J. Benson et al., 2017	Log books from 921,918 abortion care cases treated in 4,881 health facilities with IPAS support in 10 countries 2011-2015 were examined to identify post abortion contraception provision.	Contraceptive uptake was 71% for adolescents, compared with 78% for those aged 25+. 14% of under 25s chose a LARC method. The paper contains 8 key recommendations for enhancing adolescent PAC.	This is the 'gold standard' study on contraceptive provision in the context of PAC.
Evens et al., 2014	An assessment of PAC services in Kenyan public hospitals. The sample included a sub group of 104 clients aged 15-24.	The percentage of young clients reporting contraceptive use rose from 27% to 35% after the procedure, but this was significantly lower than the 48% in the 25+ group.	Benson2017b provides more comprehensive insights.
COMMUNITY LEVEL INTERVENTIONS			
Lemani et al., 2017	Malawi: cluster RCT of contraceptive uptake after training community health workers (HSAs) in couples counselling. 22-26% of participants were adolescents.	There were no substantial differences in contraceptive outcomes although more condoms were distributed and male partners present in the group where HSAs had received additional training. The method mix was overwhelmingly short acting methods.	May not be a useful approach.
Adam, 2016	Darfur IDP camp residents. Home based counselling to improve uptake of modern contraception. Comparison of 2 successive survey rounds with 640 participants each.	Overall. modern FP use increased from 10.9% (70/640) in 2007 to 21.6% (138/640) in 2009 (P<0.001). Awareness of modern FP method aOR 5.4 (3.9 to 7.4); Use of methods aOR 2.8 (2.0 to 4.1). Among adolescents, the absolute change for knowledge was 82/115 (71.3%) to 108/123 (87.8%) and for use from 5/115 (4.3%) to 10/123 (8.1%)	Note the study was not specifically about adolescents but they made up around 18% of the sample.

Citation ID	Intervention (Participants, Setting, Comparison if any)	Findings	Comment
Sarkar et al., 2015	Systematic review of research studies and evaluations of community-level initiatives for improving access to contraception, pregnancy care and safe abortion services by young married couples, where women were in the age-group of 15-24 years.	Multi-layered community-based interventions, targeting young married women, their families and the health system can improve utilization of reproductive health services among young couples in resource-constrained settings. Less evidence is available on strategies to delay first pregnancy as compared to spacing among young women. Family and community level barriers in most of the project settings restricted its effective implementation.	
YOUTH FRIENDLY HEALTH SERVICES			
Fikree et al., 2017	A youth friendly service model emphasising access to LARC was evaluated in Ethiopia with data from 5,513 new female FP acceptors (intervention 3,614; non-intervention 1,899). 54% of the intervention and 69% of the sample were aged 15-19.	LARC acceptance relative to short acting methods rose from 13.4% to 24.2% after the intervention. The authors conclude that "many young women, regardless of their marital status, not only desire to delay their first birth but also opt for a highly effective contraceptive method when offered in a safe environment."	
Geary et al., 2015	Evaluation of South African youth friendly health services using simulated clients:58 clinic visits were conducted, 30 by female simulated clients and 28 by males, at 15 clinics half of which were designated as YFHS facilities.	There was no evidence that clinics providing the YFS programme provided a more positive experience to simulated clients, or were more likely to be recommended by simulated clients to their peers, than those not providing this programme.	Findings consistent with the Chandra Mouli review.
Rosenberg et al., 2018	Prospective comparative study of four public-sector health centers in Malawi, one assigned to "standard of care" and three to a YFHS model. 1,000 AGYW aged 15–24 years, median age 19 were enrolled and followed over 12 months to determine use of HIV testing, condoms, and hormonal contraception (note no male participants).	YFHS participants were 23% (16% to 29%) more likely to receive HIV testing, 57% (51% to 63%) more likely to receive condoms, and 39% (34% to 45%) more likely to receive hormonal contraception.	More promising than previous YFHS experience. Note small number of participating facilities, lower proportion of young participants, and non inclusion of ABYM.

Citation ID	Intervention (Participants, Setting, Comparison if any)	Findings	Comment
ADOLESCENTS WITH DISABILITIES			
Burke et al., 2017	Senegalese adolescents and youth (n=144) aged 18–24 years, living with a physical or sensory (visual or hearing) impairment were interviewed regarding their SRH and experiences of services. Data collection utilised peer researchers, many living with disabilities.	Sexual violence emerged as a major vulnerability for PWD. Financial as well as sociocultural barriers to access are prominent for this group.	
Olajide et al., 2014	This study assessed awareness and use of modern contraceptives among 215 physically challenged Nigerian in-school adolescents (male and female) with a mean age of 15.5.	38% of respondents had ever heard about modern contraceptives. Only 34{\%} of sexually experienced respondents had used a modern contraceptive method. The male condom was the most commonly used method. Visually impaired respondents were better informed than those living with other disabilities.	'AWD' cannot be treated as an homogenous group but will need services tailored to their needs.
OTHER STUDIES			
Krashin, Tang, Mody, & Lopez, 2015	Cochrane Review. Hormonal and intrauterine methods for contraception for women aged 25 years and younger. 5 trials reviewed, none from SSA.	The current evidence was insufficient to compare efficacy and continuation rates for hormonal and intrauterine contraceptive methods in women aged 25 years and younger.	Included here for completeness, non-informative.
Lopez, Grey, Tolley, & Chen, 2016	Cochrane Review. Brief educational strategies for improving contraception use in young people.	11 studies identified: 10 in USA and one in China. None from SSA. Limited applicability of findings outside USA.	Authors comment on the evidence gap in SSA.
McCurdy, Jiang, & Schnatz, 2018	Analysis of DHS data from 2005-2011 surveys with a focus on unmet need among adolescents.	Analysis by literacy shows a high proportion of adolescents surveyed cannot read (35.7%, n = 16,084). The authors advocate offering LARCs during post-abortive or postpartum care with particular focus on rural adolescents, but minimising reliance on written information materials.	Relevant for Malawi noting more than 50% primary school dropout among boys and girls.

Citation ID	Intervention (Participants, Setting, Comparison if any)	Findings	Comment
Ngome & Odimegwu, 2014	DHS data analysis from Zimbabwe focusing on adolescent contraceptive use.	The proportion of adolescent women with a large age difference with their husbands/partners who are current contraceptive users was higher with 42.4% as compared to 34.7% among adolescent women with a small or no age difference. Modern contraceptive use among adolescent women residing in rural areas was higher than for those residing in urban areas (41.9% vs. 33.3%).	
Peterson, Donze, Allen, & Bonell, 2019	Systematic review of 11 evaluations, published from 1999 to 2016, of interventions related to school-level environment or student-level educational assets.	Interventions addressing school-level environment may delay sexual debut and that those addressing student-level educational assets may reduce risk of pregnancy and STDs.	
ADOLESCENCE-360 (A360) BASELINE EVALUATION REPORTS			
C. Atchison et al., 2018b	A360 outcome evaluation: summary report of the baseline survey in Tanzania, undertaken 2017-18. 3,511 adolescent girls aged 15–19 years and 125 cohabiting adults (female or husbands) were surveyed in urban and semi urban areas of a district in Mwanza region. 94% of adolescent girls were unmarried. This is a prelude to the "Kuwa Mjanj" intervention to be implemented by PSI.	mCPR for unmarried girls was 51.4%. Unmet need for modern contraception was 40.3% in unmarried girls and 32.0% in married girls, made up almost entirely of unmet need for spacing. A set of programmatic recommendations was made in the light of the baseline findings.	Note the data relate almost exclusively to AGYW with no male adolescent and limited adult involvement. The multi country evaluation protocol is published at **C. J. Atchison et al., 2018**
C. Atchison et al., 2018a	A360 outcome evaluation: summary report of the baseline survey in Nigeria. In Ogun, 12,053 unmarried girls aged 15–19 years and 337 co-habiting adults were interviewed. Female relatives of unmarried adolescent girls made up the majority of co-habiting adult respondents. In Nasarawa, 4,816 married girls aged 15–19 years and 326 husbands/co-habiting male partners were interviewed. The vast majority of respondents were husbands (94.5%).	mCPR for unmarried girls aged 15–19 years was 47.5%; for married girls aged 15–19 years it was 14.4%. Unmet need for modern contraception was 32.5% in unmarried adolescents, made up almost entirely of unmet need for spacing. Unmet need for modern contraception was 21.9% in married adolescents, made up almost entirely of unmet need for spacing. A set of programmatic recommendations was made in the light of the baseline findings.	See above re the evaluation protocol. Again no ABYM.

Citation ID	Intervention (Participants, Setting, Comparison if any)	Findings	Comment
Newport et al., 2019	Midterm review of the A360 program.	This is a comprehensive report covering many aspects too extensive for rapid summary. A summary finding of potential TL research interest is "Consider the potential of aspirational messaging. Tapping into adolescent girls' and couples' aspirations has resonated in the four distinct A360 implementation contexts, for both married and unmarried adolescents."	The importance of 'aspirations' was noted in COM's adolescent research.
ThinkPlace Kenya, 2018	Qualitative 'learning research' for the initial phase leading to design in Mozambique. Participants included adolescents aged '10-19' and other relevant groups.	The report lists 'design challenges' arising from the interview. Of note given the above findings is a section on the difficulty that adolescent girls had in articulating aspirations in the context of their lived experience.	

Note: the Ethiopia A360 baseline report is not included as the program focus is exclusively on married women.

DISCUSSION

This section includes reflections on the findings above, together with points arising from the review presentation and discussion with partners on 13 November 2019.

Contextual factors that are identified as influential in the Malawi and regional setting include cultural beliefs on fertility, masculinity and misconceptions about the risk of infertility that might follow use of contraception. Lack of confidentiality and shame regarding accessing services are powerful disincentives for adolescents. Influencers include parents, partners and peers but the influence of both traditional and 'alternative' initiation practices in the context of social change and urbanisation requires further study. Adolescents living with disabilities face particular challenges: their access to SRH knowledge is constrained as well as practical aspects of access to services; they also face an excess risk of adverse experiences including sexual violence.

Regarding population and intervention studies, a lesson from peer education and school-based intervention studies is that only modest impact can be anticipated from educative approaches that do not include access to services. The use of social franchising models aligned to community structures has shown the ability to overcome contextual and cultural barriers and increase access to long acting methods among adolescents. To enhance access for under-served groups in FP services, there is evidence that provision of vouchers has increased relative uptake of long acting methods but this has not been formally tested among adolescents. Post abortion care is an important context for extending contraceptive access to adolescents, to prevent unintended repeat pregnancy. Counselling may to some extent be easier as fertility has been 'proved' even in adverse circumstances. Very large data sets from IPAS affiliates indicate that provision of long acting methods to adolescent clients is feasible and a set of recommendations is made to develop adolescent contraceptive provision.

In the Malawi setting, the evidence indicates that use of Health Surveillance Assistants to extend community-based provision may not be an optimal strategy. Self-administration of DMPA removes a service side barrier but other approaches are needed to ensure full access to long acting methods for adolescents. A systematic review warns us that when attempting to implement multi-layered community-based interventions "family and community level barriers in most of the project settings restricted its implementation", notably for adolescents who have not yet had a first birth.

Much has been written about Youth Friendly Services including the Malawi experience. A notable gap in published research is the experiences of adolescent boys and young men as much research has exclusively focused on adolescent girls and young women: this has been an unfortunate missed opportunity to understand the whole picture.

Information provision strategies for reproductive health need to recognise the local context of very high primary school dropout among both girls and boys: more than half of Malawian adolescents do not complete Standard 8 and thus many will not

have acquired basic numeracy and literacy, let alone been exposed to all elements of the Life Skills curriculum.

The mid-term review of the Adolescence 360 programme in the region identified aspiration-building as a key target for future programming. The report stated: "Consider the potential of aspirational messaging. Tapping into adolescent girls' and couples' aspirations has resonated in the four distinct A360 implementation contexts, for both married and unmarried adolescents."

Towards answerable research questions: priority areas identified as gaps that require attention.

The review and subsequent discussions identified the following as priority topics for further investigation.

1. Understanding female and male adolescents' perspectives about:

- **Wider needs for health services**, for example services for common health problems in addition to SRH. Mental health was identified as a gap. There could be potential gains through offering 'general' service to overcome shame/ confidentiality barrier.
- **Social networks as channels** for information and access to services
- The specific needs of **adolescents living with disabilities** in Malawi
- Adolescents' views on **novel or additional access points** beyond outreach or static clinic models (attractive for male and female adolescents respectively). This could include airtime vendors, being accompanied by school nurse, referral facilitation from schools, hair salons (for older adolescent no longer restricted by school rules)

2. Addressing Method-specific and technical issues.

- Why do **misconceptions/ myths** appear to disproportionately affect uptake of OCP or IUCD relative to Depo?
- Can the **non-contraceptive benefits** of Oral Contraception be leveraged as a route to normalization of use and reduce anxiety about fertility and shame/ stigma. This would include use for dysmenorrhoea, menorrhagia and related anaemia due to excessive menstrual blood loss, and appropriate 'social' use for avoidance of menses, for example for sport participation or for high-stakes examinations.
- **Emergency contraception.** Malawi has much lower use of EC than other countries resulting in preventable unintended pregnancy. Knowledge and use of the method is largely restricted to urban/ educated adolescents such as those attending colleges, where informal but trusted distribution channels operate.

3. Integration of services

- **Post abortion care**. The review identified a number of very large studies indicating the substantial value of PAC as a setting for contraceptive provision, including of long acting methods and for engagement of adolescents to prevent repeat unintended pregnancy. Implementation research is needed to identify the best means to ensure that all PAC provision is able to fulfil these functions.
- **Gender-transformative interventions** are a main focus or stand-alone component of some programming directed to adolescents. There may be

opportunities to make test means to make explicit links between this type of programming and access to contraception. Similar approaches may apply to programming for Gender Based Violence and Child Protection/ Safeguarding.

- Pre Exposure Prophylaxis for HIV prevention (PrEP). While rollout of PrEP in key populations (eg discordant couples, sex workers, MSM) is likely to remain within the mandate of vertically structured HIV programming, the national policy envisages extension to 'AGYW' who constitute a huge proportion of the population. In that context, programming that integrates with other SRH services is a high priority. The current PEPFAR approach for this group is through DREAMS sites but there is a need for discussion of service models and proposals for testing of integrative solutions, so that PrEP is properly located within SRH service frameworks.

4. There are substantial challenges but also opportunities to test models that can facilitate **Integration across sectors**, notably to enable Primary, Secondary Schools and Colleges to support access, while recognising the policy and programming challenges that have rendered the education sector cautious about service delivery within schools. Youth and Sports sectors also require consideration for development of prototypes.

REFERENCES

Adam, I. F. (2016). Evidence from cluster surveys on the association between home-based counseling and use of family planning in conflict-affected Darfur. *International Journal of Gynaecology and Obstetrics: The Official Organ of the International Federation of Gynaecology and Obstetrics*, *133*(2), 221–225. https://doi.org/10.1016/j.ijgo.2015.09.023

Adams, M. K., Salazar, E., & Lundgren, R. (2013). Tell them you are planning for the future: gender norms and family planning among adolescents in northern Uganda. *International Journal of Gynaecology and Obstetrics: The Official Organ of the International Federation of Gynaecology and Obstetrics*, *123 Suppl*, e7-10. https://doi.org/10.1016/j.ijgo.2013.07.004

Ajuwon, A. J., & Brieger, W. R. (2007). Evaluation of a school-based reproductive health education program in rural South Western, Nigeria. *African Journal of Reproductive Health*, *11*(2), 47-59. Retrieved from https://www.cochranelibrary.com/central/doi/10.1002/central/CN-00759445/full

Arinze-Onyia, S. U., Aguwa, E. N., & Nwobodo, E. (2014). Health education alone and health education plus advance provision of emergency contraceptive pills on knowledge and attitudes among university female students in Enugu, Nigeria. *Nigerian Journal of Clinical Practice*, *17*(1), 100–105. https://doi.org/10.4103/1119-3077.122858

Asiimwe, J. B., Ndugga, P., Mushomi, J., & Manyenye Ntozi, J. P. (2014). Factors associated with modern contraceptive use among young and older women in Uganda; a comparative analysis. *BMC Public Health*, *14*, 926. https://doi.org/10.1186/1471-2458-14-926

Atchison, C. J., Mulhern, E., Kapiga, S., Nsanya, M. K., Crawford, E. E., Mussa, M., … Doyle, A. M. (2018). Evaluating the impact of an intervention to increase uptake of modern contraceptives among adolescent girls (15-19 years) in Nigeria,

Ethiopia and Tanzania: the Adolescents 360 quasi-experimental study protocol. *BMJ Open*, *8*(5), e021834. https://doi.org/10.1136/bmjopen-2018-021834

Atchison, C., Newbatt, E., Mulhern, E., Newport, S., Hargreaves, J., & Doyle, A. (2018a). *Adolescents 360 Outcome Evaluation: Summary Report of the Baseline Survey in Nigeria*.

Atchison, C., Newbatt, E., Mulhern, E., Newport, S., Hargreaves, J., & Doyle, A. (2018b). *Adolescents 360 Outcome Evaluation: Summary Report of the Baseline Survey in Tanzania*.

Babalola, S., Folda, L., & Babayaro, H. (2008). The effects of a communication program on contraceptive ideation and use among young women in northern Nigeria. *Studies in Family Planning*, *39*(3), 211–220.

Bassett, I. V, Xu, A., Govere, S., Thulare, H., Frank, S. C., Psaros, C., & Parker, R. A. (2018, October). Contraception and PrEP in South African Hair Salons: Owner, Stylist, and Client Views. *Journal of Acquired Immune Deficiency Syndromes (1999)*, Vol. 79, pp. e78–e81. https://doi.org/10.1097/QAI.0000000000001794

Baumgartner, J. N., Green, M., Weaver, M. A., Mpangile, G., Kohi, T. W., Mujaya, S. N., & Lasway, C. (2014). Integrating family planning services into HIV care and treatment clinics in Tanzania: evaluation of a facilitated referral model. *Health Policy and Planning*, *29*(5), 570–579. https://doi.org/10.1093/heapol/czt043

Bellows, B., Mackay, A., Dingle, A., Tuyiragize, R., Nnyombi, W., & Dasgupta, A. (2017). Increasing Contraceptive Access for Hard-to-Reach Populations With Vouchers and Social Franchising in Uganda. *Global Health, Science and Practice*, *5*(3), 446–455. https://doi.org/10.9745/GHSP-D-17-00065

Benson, A., Calhoun, L., Corroon, M., Gueye, A., Guilkey, D., Kebede, E., … Winston, J. (2018). The Senegal urban reproductive health initiative: a longitudinal program impact evaluation. *Contraception*, *97*(5), 439–444. https://doi.org/10.1016/j.contraception.2018.01.003

Benson, J., Andersen, K., Healy, J., & Brahmi, D. (2017). What Factors Contribute to Postabortion Contraceptive Uptake By Young Women? A Program Evaluation in 10 Countries in Asia and sub-Saharan Africa. *Global Health, Science and Practice*, *5*(4), 644–657. https://doi.org/10.9745/GHSP-D-17-00085

Birhanu, Z., Tushune, K., & Jebena, M. G. (2018). Sexual and Reproductive Health Services Use, Perceptions, and Barriers among Young People in Southwest Oromia, Ethiopia. *Ethiopian Journal of Health Sciences*, *28*(1), 37–48. https://doi.org/10.4314/ejhs.v28i1.6

Blackstone, S. R., Nwaozuru, U., & Iwelunmor, J. (2017). Factors Influencing Contraceptive Use in Sub-Saharan Africa: A Systematic Review. *International Quarterly of Community Health Education*, *37*(2), 79–91. https://doi.org/10.1177/0272684X16685254

Brieger, W. R., Delano, G. E., Lane, C. G., Oladepo, O., & Oyediran, K. A. (2001). West African Youth Initiative: outcome of a reproductive health education program. *The Journal of Adolescent Health : Official Publication of the Society for Adolescent Medicine*, *29*(6), 436–446. https://doi.org/10.1016/s1054-139x(01)00264-6

Bull, S., Nabembezi, D., Birungi, R., Kiwanuka, J., & Ybarra, M. (2010). Cyber-Senga:

Ugandan youth preferences for content in an internet-delivered comprehensive sexuality education programme. *East African Journal of Public Health*, *7*(1), 58–63.

Burke, E., Kebe, F., Flink, I., van Reeuwijk, M., & le May, A. (2017). A qualitative study to explore the barriers and enablers for young people with disabilities to access sexual and reproductive health services in Senegal. *Reproductive Health Matters*, *25*(50), 43–54. https://doi.org/10.1080/09688080.2017.1329607

Busza, J., Mtetwa, S., Mapfumo, R., Hanisch, D., Wong-Gruenwald, R., & Cowan, F. (2016). Underage and underserved: reaching young women who sell sex in Zimbabwe. *AIDS Care*, *28 Suppl 2*, 14–20. https://doi.org/10.1080/09540121.2016.1176673

Castle, S. (2003). Factors influencing young Malians' reluctance to use hormonal contraceptives. *Studies in Family Planning*, *34*(3), 186–199.

Chakraborty, N. M., Mbondo, M., & Wanderi, J. (2016). Evaluating the impact of social franchising on family planning use in Kenya. *Journal of Health, Population, and Nutrition*, *35*(1), 19. https://doi.org/10.1186/s41043-016-0056-y

Chandra-Mouli, V., Lane, C., & Wong, S. (2015). What Does Not Work in Adolescent Sexual and Reproductive Health: A Review of Evidence on Interventions Commonly Accepted as Best Practices. *Global Health, Science and Practice*, *3*(3), 333–340. https://doi.org/10.9745/GHSP-D-15-00126

Cover, J., Namagembe, A., Tumusiime, J., Lim, J., & Cox, C. M. (2018). Ugandan providers' views on the acceptability of contraceptive self-injection for adolescents: a qualitative study. *Reproductive Health*, *15*(1), 165. https://doi.org/10.1186/s12978-018-0611-7

Evens, E., Otieno-Masaba, R., Eichleay, M., McCarraher, D., Hainsworth, G., Lane, C., … Onduso, P. (2014). Post-abortion care services for youth and adult clients in Kenya: a comparison of services, client satisfaction and provider attitudes. *Journal of Biosocial Science*, *46*(1), 1–15. https://doi.org/10.1017/S0021932013000230

Fikree, F. F., Abshiro, W. K., Mai, M. M., Hagos, K. L., & Asnake, M. (2017). Strengthening Youth Friendly Health Services through Expanding Method Choice to include Long-Acting Reversible Contraceptives for Ethiopian Youth. *African Journal of Reproductive Health*, *21*(3), 37–48.

Firestone, R., Moorsmith, R., James, S., Urey, M., Greifinger, R., Lloyd, D., … Sanoe, M. (2016). Intensive Group Learning and On-Site Services to Improve Sexual and Reproductive Health Among Young Adults in Liberia: A Randomized Evaluation of HealthyActions. *Global Health, Science and Practice*, *4*(3), 435–451. https://doi.org/10.9745/GHSP-D-16-00074

Geary, R. S., Webb, E. L., Clarke, L., & Norris, S. A. (2015). Evaluating youth-friendly health services: young people's perspectives from a simulated client study in urban South Africa. *Global Health Action*, *8*, 26080. https://doi.org/10.3402/gha.v8.26080

Godia, P. M., Olenja, J. M., Hofman, J. J., & van den Broek, N. (2014). Young people's perception of sexual and reproductive health services in Kenya. *BMC Health Services Research*, *14*, 172. https://doi.org/10.1186/1472-6963-14-172

Gold, J., Burke, E., Cisse, B., Mackay, A., Eva, G., & Hayes, B. (2017). Increasing Access to Family Planning Choices Through Public-Sector Social Franchising: The Experience of Marie Stopes International in Mali. *Global Health, Science and Practice*, *5*(2), 286–298. https://doi.org/10.9745/GHSP-D-17-00011

Hubacher, D., Olawo, A., Manduku, C., Kiarie, J., & Chen, P.-L. (2012). Preventing unintended pregnancy among young women in Kenya: prospective cohort study to offer contraceptive implants. *Contraception*, *86*(5), 511–517. https://doi.org/10.1016/j.contraception.2012.04.013

Ivanova, O., Rai, M., Mlahagwa, W., Tumuhairwe, J., Bakuli, A., Nyakato, V. N., & Kemigisha, E. (2019). A cross-sectional mixed-methods study of sexual and reproductive health knowledge, experiences and access to services among refugee adolescent girls in the Nakivale refugee settlement, Uganda. *Reproductive Health*, *16*(1), 35. https://doi.org/10.1186/s12978-019-0698-5

John, N. A., Babalola, S., & Chipeta, E. (2015). Sexual Pleasure, Partner Dynamics and Contraceptive Use in Malawi. *International Perspectives on Sexual and Reproductive Health*, *41*(2), 99–107. https://doi.org/10.1363/4109915

Kabagenyi, A., Jennings, L., Reid, A., Nalwadda, G., Ntozi, J., & Atuyambe, L. (2014). Barriers to male involvement in contraceptive uptake and reproductive health services: a qualitative study of men and women's perceptions in two rural districts in Uganda. *Reproductive Health*, *11*(1), 21. https://doi.org/10.1186/1742-4755-11-21

Kajula, L. J., Darling, N., Kaaya, S. F., & De Vries, H. (2016). Parenting practices and styles associated with adolescent sexual health in Dar es Salaam, Tanzania. *AIDS Care*, *28*(11), 1467–1472. https://doi.org/10.1080/09540121.2016.1191598

Kaphagawani, N. C., & Kalipeni, E. (2017). Sociocultural factors contributing to teenage pregnancy in Zomba district, Malawi. *Global Public Health*, *12*(6), 694–710. https://doi.org/10.1080/17441692.2016.1229354

Krashin, J., Tang, J. H., Mody, S., & Lopez, L. M. (2015). Hormonal and intrauterine methods for contraception for women aged 25 years and younger. *Cochrane Database of Systematic Reviews*, (8). https://doi.org/10.1002/14651858.CD009805.pub3

Krugu, J. K., Mevissen, F. E. F., Flore, K. A., & Ruiter, R. A. C. (2018). Girls cannot be trusted: young men's perspectives on contraceptive decision making and sexual relationships in Bolgatanga, Ghana. *The European Journal of Contraception & Reproductive Health Care : The Official Journal of the European Society of Contraception*, *23*(2), 139–146. https://doi.org/10.1080/13625187.2018.1458225

Lemani, C., Tang, J. H., Kopp, D., Phiri, B., Kumvula, C., Chikosi, L., … Rosenberg, N. E. (2017). Contraceptive uptake after training community health workers in couples counseling: A cluster randomized trial. *PloS One*, *12*(4), e0175879. https://doi.org/10.1371/journal.pone.0175879

Lopez, L. M., Bernholc, A., Chen, M., & Tolley, E. E. (2016). School-based interventions for improving contraceptive use in adolescents. *Cochrane Database of Systematic Reviews*, (6). https://doi.org/10.1002/14651858.CD012249

Lopez, L. M., Grey, T. W., Tolley, E. E., & Chen, M. (2016). Brief educational

strategies for improving contraception use in young people. *Cochrane Database of Systematic Reviews*, (3). https://doi.org/10.1002/14651858.CD012025.pub2

Masemola-Yende, J. P. F., & Mataboge, S. M. (2015). Access to information and decision making on teenage pregnancy prevention by females in Tshwane. *Curationis*, *38*(2), 1540. https://doi.org/10.4102/curationis.v38i2.1540

Mason-Jones, A. J., Sinclair, D., Mathews, C., Kagee, A., Hillman, A., & Lombard, C. (2016). School-based interventions for preventing HIV, sexually transmitted infections, and pregnancy in adolescents. *Cochrane Database of Systematic Reviews*, (11). https://doi.org/10.1002/14651858.CD006417.pub3

McCurdy, R. J., Jiang, X., & Schnatz, P. F. (2018). Long-acting reversible contraception in adolescents in Sub-Saharan Africa: evidence from demographic and health surveys. *The European Journal of Contraception & Reproductive Health Care : The Official Journal of the European Society of Contraception*, *23*(5), 357–364. https://doi.org/10.1080/13625187.2018.1519535

Moyo, S., & Rusinga, O. (2017). Contraceptives: Adolescents' Knowledge, Attitudes and Practices. A Case Study of Rural Mhondoro-Ngezi District, Zimbabwe. *African Journal of Reproductive Health*, *21*(1), 49–63.

Munthali, A. C., & Zulu, E. M. (2007). The timing and role of initiation rites in preparing young people for adolescence and responsible sexual and reproductive behaviour in Malawi. *African Journal of Reproductive Health*, *11*(3), 150–167.

Newport, A. S., Appleford, G., Mulhern, E., Punton, M., Weinberger, M., Rosen, J., & Rosen, J. (2019). *Midterm Review of the Adolescents 360 Program*. (June).

Ngome, E., & Odimegwu, C. (2014). The social context of adolescent women's use of modern contraceptives in Zimbabwe: a multilevel analysis. *Reproductive Health*, *11*, 64. https://doi.org/10.1186/1742-4755-11-64

Nkosi, B., Seeley, J., Ngwenya, N., Mchunu, S. L., Gumede, D., Ferguson, J., & Doyle, A. M. (2019). Exploring adolescents and young people's candidacy for utilising health services in a rural district, South Africa. *BMC Health Services Research*, *19*(1), 195. https://doi.org/10.1186/s12913-019-3960-1

Ochako, R., Mbondo, M., Aloo, S., Kaimenyi, S., Thompson, R., Temmerman, M., & Kays, M. (2015). Barriers to modern contraceptive methods uptake among young women in Kenya: a qualitative study. *BMC Public Health*, *15*, 118. https://doi.org/10.1186/s12889-015-1483-1

Olajide, F. O., Omisore, A. G., Arije, O. O., Afolabi, O. T., & Olajide, A. O. (2014). Awareness and use of modern contraceptives among physically challenged in-school adolescents in Osun State, Nigeria. *African Journal of Reproductive Health*, *18*(2), 87–96.

Oringanje, C., Meremikwu, M. M., Eko, H., Esu, E., Meremikwu, A., & Ehiri, J. E. (2016). Interventions for preventing unintended pregnancies among adolescents. *Cochrane Database of Systematic Reviews*, (2). https://doi.org/10.1002/14651858.CD005215.pub3

Peterson, A. J., Donze, M., Allen, E., & Bonell, C. (2019). Effects of Interventions Addressing School Environments or Educational Assets on Adolescent Sexual Health: Systematic Review and Meta-analysis. *Perspectives on Sexual and Reproductive Health*, *51*(2), 91–107. https://doi.org/10.1363/psrh.12102

Rock, A., Barrington, C., Abdoulayi, S., Tsoka, M., Mvula, P., & Handa, S. (2016). Social networks, social participation, and health among youth living in extreme poverty in rural Malawi. *Social Science & Medicine (1982)*, *170*, 55–62. https://doi.org/10.1016/j.socscimed.2016.10.005

Rokicki, S., & Merten, S. (2018). The context of emergency contraception use among young unmarried women in Accra, Ghana: a qualitative study. *Reproductive Health*, *15*(1), 212. https://doi.org/10.1186/s12978-018-0656-7

Rosenberg, N. E., Bhushan, N. L., Vansia, D., Phanga, T., Maseko, B., Nthani, T., … Pettifor, A. E. (2018). Comparing Youth-Friendly Health Services to the Standard of Care Through "Girl Power-Malawi": A Quasi-Experimental Cohort Study. *JAIDS Journal of Acquired Immune Deficiency Syndromes*, *79*(4), 458–466. https://doi.org/10.1097/QAI.0000000000001830

Sarkar, A., Chandra-Mouli, V., Jain, K., Behera, J., Mishra, S. K., & Mehra, S. (2015). Community based reproductive health interventions for young married couples in resource-constrained settings: a systematic review. *BMC Public Health*, *15*(1), 1037. https://doi.org/10.1186/s12889-015-2352-7

Sarnquist, C., Sinclair, J., Omondi Mboya, B., Langat, N., Paiva, L., Halpern-Felsher, B., … Baiocchi, M. T. (2017). Evidence That Classroom-Based Behavioral Interventions Reduce Pregnancy-Related School Dropout Among Nairobi Adolescents. *Health Education & Behavior*, *44*(2), 297–303. https://doi.org/10.1177/1090198116657777

Self, A., Chipokosa, S., Misomali, A., Aung, T., Harvey, S. A., Chimchere, M., … Marx, M. A. (2018). Youth accessing reproductive health services in Malawi: drivers, barriers, and suggestions from the perspectives of youth and parents. *Reproductive Health*, *15*(1), 108. https://doi.org/10.1186/s12978-018-0549-9

Taylor, M., Jinabhai, C., Dlamini, S., Sathiparsad, R., Eggers, M. S., & Vries, H. De. (2014). Effects of a Teenage Pregnancy Prevention Program in KwaZulu-Natal, South Africa. *Health Care for Women International*, *35*(7–9), 845–858. https://doi.org/10.1080/07399332.2014.910216

ThinkPlace Kenya. (2018). *Learnings Document : Increasing the demand for family planning in rural Mozambique*.

Wamoyi, J., & Wight, D. (2014). "Mum never loved me." How structural factors influence adolescent sexual and reproductive health through parent-child connectedness: a qualitative study in rural Tanzania. *African Journal of AIDS Research : AJAR*, *13*(2), 169–178. https://doi.org/10.2989/16085906.2014.945387

Yakubu, I., & Salisu, W. J. (2018). Determinants of adolescent pregnancy in sub-Saharan Africa: a systematic review. *Reproductive Health*, *15*(1), 15. https://doi.org/10.1186/s12978-018-0460-4